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stance, probably organic, found in minute proportions in sea-water. He thinks this may be analogous to the "vitamines" formed by the action of aerobic bacteria on peat, which act as a powerful stimulant of plant growth. At any rate this is another instance of the importance of certain chemical substances in minute traces in the foods of organisms.

#### RESTITUTION MASSES.

DeMorgan and Drew (Jour. Mar. Biol. Assn. Vol. X, No. 3, '14) give an account of cutting up pieces of *Antennularia* and pressing these thru bolting silk resulting in isolated cells and small cell aggregates. These soon become aggregated into one mass again. A definite layer of ectoderm cells is formed on the surface and secretes a perisarc. The entoderm cells gradually come together and separate from other types of cells. They form definite tubules similar to tubules found in the hydranths. They later degenerate. The ectoderm cells did not degenerate within the 60 days of observation. There were no evidences of cell division, nor did the mass give rise to hydranths as in the experiments described by Wilson upon *Penaria* and *Eudendrium*.

#### CONSTANCY OF RATIO OF NUCLEUS TO PLASMA.

Dolley (Jour. Comp. Neur. Oct. '14) believes that "Resting, un-depressed nerve cells of corresponding types, of all individuals of a species, have a mass relation of nucleus to plasma which is a close numerical constant." This ratio becomes constant after full development and persists until senescence,—independent of the size of the animal, of the variations in form and absolute size of the cells. The only factors which change this ratio of the resting cell are functional depression and functional senility. During the prime of life the resting cell starts work with this constant ratio between nucleus and plasma; under fatigue this ratio is disturbed, and on recovery it is re-established. Old age involves the inability to recover this normal balance after work. The method involved weighing of wax reconstructions of cell and nucleus, and the use of the prismoid formulas. The two methods gave essentially paralld results.